

Serial No. 10/720,631
Docket H-205755

REMARKS

Claims 1-64 were pending in the present application. Claims 48 and 58 have been amended, claims 49-50 and 61 have been cancelled, and new claims 65-67 have been added. As a result, claims 1-48, 51-60, and 62-67 are currently pending. Reexamination and reconsideration are requested in light of the accompanying amendments and remarks.

Applicants gratefully acknowledge the allowance of claims 1-47.

Applicants gratefully acknowledge the examiner's statement that claim 50 would be allowable if rewritten in independent form. Claim 48 has been amended to include the limitation of claim 50, and claims 49-50 have been cancelled. Therefore, claim 48, and claims 51-57 which depend from it, are allowable.

The rejection of claims 58-59, and 61-64 under 35 U.S.C. §102(b) as being anticipated by Oda (U.S. Patent No. 4,551,220) has been overcome. Oda discloses a gas diffusion electrode material which comprises a continuously micro-porous electrically insulating material and at least partially graphitized carbon black powder uniformly incorporated in the insulating material.

Claim 58 has been amended to recite that the "thickness of the cathode diffusion layer is in a range of about 150 to about 200 microns." Support for the amendment can be found in the specification at p. 8, lines 7-9. As discussed in the March 27, 2006 Declaration of Mark Mathias, the water vapor permeance of the gas diffusion electrode material of Oda can be estimated using the thicknesses and porosities given in the patent. The water vapor permeance of the gas diffusion electrode material disclosed in Oda at a thickness of 300 microns and porosities of 0.4 to 0.9 is $3.2 \times 10^{-4} \text{ g}/(\text{Pa s m}^2)$ to $7.6 \times 10^{-4} \text{ g}/(\text{Pa s m}^2)$, which is greater than the claimed range of less than about $3 \times 10^{-4} \text{ g}/(\text{Pa s m}^2)$. Because Oda's gas diffusion electrode material has a water vapor permeance greater than the claimed range at a thickness of 300 microns, it would be even further out of the range at a thickness of about 150 to about 200 microns.

Therefore, claims 58-59, and 61-64 are not anticipated by Oda.

New claims 65-67 have been added. Support for these claims can be found in the specification at page 9, line 13 to p. 10, line 17. Claim 65-66 depend from allowable claim 48, and claim 67 depends from amended claim 58. Therefore, these claims are allowable.

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Applicants note the following errors in the published application, 2005/0112449 A1. In equations 1 and 2 and paragraphs [0085] and [0095], the symbol \square should be Π (upper case Greek letter pi). In paragraphs [0096] and [0101], the symbol \square should be δ (lower case Greek letter delta). Applicants respectfully request that these errors be corrected when the patent is issued.

CONCLUSION

Applicants respectfully submit that, in view of the above amendments and remarks, the application is now in condition for allowance. Applicants respectfully request that claims 1-48, 51-60, 62-67 be passed to allowance.

If the Examiner has any questions or comments regarding the present application, he is invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,
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